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09/972,207	10/05/2001	Paul Lawrence Bradshaw	SJ09-2001-0097	4759

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EXAMINER	
CHOUDHURY, AZIZUL Q	
ART UNIT	**PAPER NUMBER**
2145	

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/972,207	BRADSHAW ET AL.	
	Examiner	Art Unit	
	Azizul Choudhury	2145	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 July 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 October 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *1/25/2002*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Detailed Action

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Lagueux, Jr. et al (US Pat No: 6,538,669), hereafter referred to as Lagueux.

1. With regards to claim 1, Lagueux teaches a storage area network (SAN), comprising: a plurality of digital data processors, each having a file system that effects access to one or more storage devices coupled to the SAN, and a process in communication with the digital data processors, the process responding to a notification on behalf of at least a selected one of the digital data processors for extension of the file system in accord with a hierarchically defined file extension policy (Lagueux teaches a storage area network design (column 5, lines 20-21, Lagueux). All storage systems require a file system and hence it is inherent that Lagueux's design possesses one as well. In fact, Lagueux provides examples how different types of storage mediums are acceptable (tape or hard drive for instance) (column 7, lines 50-52, Lagueux). Each medium employs its own set of possible file systems (hard drives are able to employ FAT32 or NTFS

for instance) so; different file systems are possible within the design as well. In addition, it is inherent that devices that are able to function as individual nodes in a network and have means by which to process data must also possess processors. The storage units of Lagueux's design are individual nodes within the SAN (Figure 17, Lagueux). In addition, since the storage units are standalone units, they must have the means by which to process the commands to read or write data and also by which to process other commands such as delete and adjust settings. Hence, the storage units must each inherently possess processors. Furthermore, Lagueux goes on to state that the design allows for processors (column 6, line 14, Lagueux). Finally, the storage elements are hierarchically distributed (column 24, line 12, Lagueux). This is equivalent to the claimed file extension policy).

2. With regards to claim 2, Lagueux teaches the SAN, wherein the process responds to a file system notification on behalf of the selected digital data processor in accord with a policy defined, in part, for a first group to which that digital data processor belongs and, in part, for a second group to which that digital data processor belongs, the first group being at a first hierarchical level and the second group being at a second hierarchical level, where the first level is hierarchically above the second level and where the first group includes digital data processor(s) in the second group as well as at least one digital data processor other than the selected digital data processor (Lagueux's design

allows for its storage elements to be hierarchically distributed (column 24, line 12, Lagueux)).

3. With regards to claim 3, Lagueux's design teaches the SAN, wherein the first group is associated with a first set of plural attributes defining a default policy for digital data processors included in that group and wherein the second group is associated with a second set of one or more attributes, each corresponding to and overriding an attribute in the first set, where the attributes of the second set, taken in conjunction with non-overridden attributes of the first set, define a policy for the second group, the process responds to a notification for file extension on behalf of the selected digital data processor in accord with a policy defined for the second group (Lagueux's design has means for rules (column 7, lines 20-30, Lagueux). Rules are equivalent to the claimed policies).

4. With regards to claim 4, Lagueux teaches the SAN, wherein the attributes can identify any of a utilization threshold above which file system extension is requested, one or more storage devices accessible for file system extension, a range of storage capacities for accessible storage devices to be assigned for file system extension, maximum file system size, and a flag indicating whether file system utilization is monitored (Lagueux's design allows for monitoring of the storage units via the storage server (column 6, lines 57-58, Lagueux). In addition, Lagueux continues and states how a variety of placements for the

storage units are permissible within the design (column 8, line 51 – column 9, line 20, Lagueux). Some examples provided show means for arranging the storage to support backup means, raid means and other storage routing means. Hence, Lagueux's design allows for attributes to be monitored and allows for another storage unit's resources to be called when a storage unit reaches its threshold as claimed).

5. With regards to claim 5, Lagueux's design teaches the SAN, wherein the attributes further includes an alert interval for notifying a SAN administrator of a file system utilization exceeding a threshold since a previous notification (Lagueux's design allows for monitoring of the storage units via the storage server (column 6, lines 57-58, Lagueux). In addition, the storage units are able to serve as raid memory for one another, backup memory for each other or other routing means. Since memory is monitored to such an extent, it is inherent that the claimed alerting means are present. In fact, Lagueux continues by stating how there are informed consent managers and modules (column 7, lines 20-30, Lagueux). Informed consent is equivalent to the claimed alert feature in a SAN design).

6. With regards to claim 6, Lagueux teaches the SAN, wherein a database coupled to the process stores the attributes (Lagueux's design has rules (column 7, lines

20-30, Lagueux). Since rules are present, attributes must be present as claimed. In addition, attributes must be stored in order for them to be useful).

7. With regards to claim 7, Lagueux teaches the SAN, wherein the digital data processor other than the selected digital data processor belongs to a third group at the second level (As previously stated, it is inherent that devices that are able to function as individual nodes in a network and have means by which to process data must also possess processors. The storage units of Lagueux's design are individual nodes within the SAN (Figure 17, Lagueux). In addition, since the storage units are standalone units, they must have the means by which to process the commands to read or write data and also by which to process other commands such as delete and adjust settings. Hence, the storage units must each inherently possess processors. Furthermore, Lagueux goes on to state that the design allows for processors (column 6, line 14, Lagueux). Finally, Lagueux discloses how each storage unit is able to have a combination of drives (tape drive and hard drive in one unit for instance) (column 7, lines 50-52, Lagueux). Each of these drives is able to have it's own address though. In addition, each drive much process commands and is expected to perform the basic read/write functions. To perform such operations, each drive must have a processor. Hence, it is possible for each of the drives of the storage units of Lagueux's design to have its own processor. Furthermore, the storage units are in a hierarchical structure as stated previously. They each have processors and they

are able to pass off storage tasks to each other (able to function as raid, backup, etc) (column 8, line 51 – column 9, line 20, Lagueux). So, each of the storage units in each of the hierarchical structures have processors and are able to pass jobs off to one another).

8. With regards to claim 8, Lagueux teaches the SAN, wherein the digital data processor other than the selected digital data processor belongs to a third group at a hierarchical level lower than the second level (As previously stated, it is inherent that devices that are able to function as individual nodes in a network and have means by which to process data must also possess processors. The storage units of Lagueux's design are individual nodes within the SAN (Figure 17, Lagueux). In addition, since the storage units are standalone units, they must have the means by which to process the commands to read or write data and also by which to process other commands such as delete and adjust settings. Hence, the storage units must each inherently possess processors. Furthermore, Lagueux goes on to state that the design allows for processors (column 6, line 14, Lagueux). Finally, Lagueux discloses how each storage unit is able to have a combination of drives (tape drive and hard drive in one unit for instance) (column 7, lines 50-52, Lagueux). Each of these drives is able to have its own address though. In addition, each drive much process commands and are expected to perform the basic read/write functions. To perform such operations, each drive must have a processor. Hence, it is possible for each of

the drives of the storage units of Lagueux's design to have its own processor. Furthermore, the storage units are in a hierarchical structure as stated previously. They each have processors and they are able to pass off storage tasks to each other (able to function as raid, backup, etc) (column 8, line 51 – column 9, line 20, Lagueux). So, each of the storage units in each of the hierarchical structures have processors and are able to pass jobs off to one another).

9. With regards to claim 9, Lagueux teaches the SAN, wherein the digital data processor other than the selected digital data processor belongs to a third group at a hierarchical level higher than the second level (As previously stated, it is inherent that devices that are able to function as individual nodes in a network and have means by which to process data must also possess processors. The storage units of Lagueux's design are individual nodes within the SAN (Figure 17, Lagueux). In addition, since the storage units are standalone units, they must have the means by which to process the commands to read or write data and also by which to process other commands such as delete and adjust settings. Hence, the storage units must each inherently possess processors. Furthermore, Lagueux goes on to state that the design allows for processors (column 6, line 14, Lagueux). Finally, Lagueux discloses how each storage unit is able to have a combination of drives (tape drive and hard drive in one unit for instance) (column 7, lines 50-52, Lagueux). Each of these drives is able to have

its own address though. In addition, each drive much process commands and are expected to perform the basic read/write functions. To perform such operations, each drive must have a processor. Hence, it is possible for each of the drives of the storage units of Lagueux's design to have its own processor. Furthermore, the storage units are in a hierarchical structure as stated previously. They each have processors and they are able to pass off storage tasks to each other (able to function as raid, backup, etc) (column 8, line 51 – column 9, line 20, Lagueux). So, each of the storage units in each of the hierarchical structures have processors and are able to pass jobs off to one another).

10. With regards to claim 10, Lagueux teaches a storage area network (SAN), comprising: a plurality of digital data processors, each having a file system that effects access to one or more devices coupled to the SAN, each digital data processor belonging to a first and a second processor groups in a set of hierarchically related groups, the first processor group being at a higher level than the second processor group and being associated with a defined default file system extension policy for processor groups at the level of the first processor group or a lower level, and the second processor group inheriting at least a portion of the default policy and overriding the remainder of the default policy, a process in communication with the digital data processor, the process responding to a notification on behalf of a selected one of the digital data

processors for file system extension by assigning one or more storage devices to the selected data processor in accord with a file extension policy defined for the second group to which the selected digital data processor belongs (Lagueux teaches a storage area network design (column 5, lines 20-21, Lagueux). All storage systems require a file system and hence it is inherent that Lagueux's design possesses one as well. In fact, Lagueux provides examples how different types of storage mediums are acceptable (tape or hard drive for instance) (column 7, lines 50-52, Lagueux). Each medium employs its own set of possible file systems (hard drives are able to employ FAT32 or NTFS for instance) so; different file systems are possible within the design as well. In addition, it is inherent that devices that are able to function as individual nodes in a network and have means by which to process data must also possess processors. The storage units of Lagueux's design are individual nodes within the SAN (Figure 17, Lagueux). In addition, since the storage units are standalone units, they must have the means by which to process the commands to read or write data and also by which to process other commands such as delete and adjust settings. Hence, the storage units must each inherently possess processors. Furthermore, Lagueux goes on to state that the design allows for processors (column 6, line 14, Lagueux). Plus, the storage elements are hierarchically distributed (column 24, line 12, Lagueux). This is equivalent to the claimed file extension policy. Finally, Lagueux's design allows for its storage elements to be hierarchically distributed (column 24, line 12, Lagueux)).

11. With regards to claim 11, Lagueux teaches the SAN, wherein the default file extension policy defines a plurality of attributes for file system extension (Lagueux's design has means for rules (column 7, lines 20-30, Lagueux). Rules are equivalent to the claimed policies).

12. With regards to claim 12, Lagueux teaches the SAN, wherein the defined attributes can identify any of a utilization threshold above which file system extension is requested, one or more storage devices accessible for file system extension, a range of storage capacities for accessible storage devices to be assigned for file system extension, maximum file system size, and a flag indicating whether file system utilization is monitored (Lagueux's design allows for monitoring of the storage units via the storage server (column 6, lines 57-58, Lagueux). In addition, Lagueux continues and states how a variety of placements for the storage units are permissible within the design (column 8, line 51 – column 9, line 20, Lagueux). Some examples provided show means for arranging the storage to support backup means, raid means and other storage routing means. Hence, Lagueux's design allows for attributes to be monitored and allows for another storage unit's resources to be called when a storage unit reaches its threshold as claimed).

13. With regards to claim 13, Lagueux teaches the SAN, wherein the process executes on one of the digital processors (it is inherent that devices that are able to function as individual nodes in a network and have means by which to process data must also possess processors. The storage units of Lagueux's design are individual nodes within the SAN (Figure 17, Lagueux). In addition, since the storage units are standalone units, they must have the means by which to process the commands to read or write data and also by which to process other commands such as delete and adjust settings. Hence, the storage units must each inherently possess processors. Furthermore, Lagueux goes on to state that the design allows for processors (column 6, line 14, Lagueux)).

14. With regards to claim 14, Lagueux teaches the SAN, wherein the selected digital data processor and the storage devices assigned thereto communicate via an interconnect fabric (Lagueux's design is for a SAN. In a SAN, the storage units are networked together. Hence there must be a presence of the claimed interconnect fabric).

15. With regards to claim 15, Lagueux teaches the SAN, further comprising a plurality of agents each associated with one of the digital data processors for communicating file extension notifications to the process (Each of the storage units of Lagueux's design are nodes in the storage area network (Figure 17,

Lagueux). The storage units each must have processors as described earlier, in addition, since the storage units each functions as nodes, they must have the means by which to serve as agenets).

16. With regards to claim 16, Lagueux teaches a storage area network (SAN) comprising one or more digital data processors and one or more storage devices, each having a file system that effects access to one or more of the storage devices, a method for extending the file systems of the processors, comprising: assigning a selected one of the digital data processor to a first group associated with a default policy for file system extension, assigning the selected digital data processor to a second group hierarchically related to the first group at a lower level, the second group inheriting at least a portion of the default policy and overriding the remainder of the default policy, extending the file system of the selected digital processors, in response to a notification therefrom, in accord with the policy defined for the second group (Lagueux teaches a storage area network design (column 5, lines 20-21, Lagueux). All storage systems require a file system and hence it is inherent that Lagueux's design possesses one as well. In fact, Lagueux provides examples how different types of storage mediums are acceptable (tape or hard drive for instance) (column 7, lines 50-52, Lagueux). Each medium employs its own set of possible file systems (hard drives are able to employ FAT32 or NTFS for instance) so; different file systems are possible within the design as well. In addition, it is inherent that devices that are able to

function as individual nodes in a network and have means by which to process data must also possess processors. The storage units of Lagueux's design are individual nodes within the SAN (Figure 17, Lagueux). In addition, since the storage units are standalone units, they must have the means by which to process the commands to read or write data and also by which to process other commands such as delete and adjust settings. Hence, the storage units must each inherently possess processors. Furthermore, Lagueux goes on to state that the design allows for processors (column 6, line 14, Lagueux). Plus, the storage elements are hierarchically distributed (column 24, line 12, Lagueux). This is equivalent to the claimed file extension policy. Also, Lagueux's design allows for its storage elements to be hierarchically distributed (column 24, line 12, Lagueux). Finally, Lagueux's design allows for monitoring of the storage units via the storage server (column 6, lines 57-58, Lagueux). In addition, the storage units are able to serve as raid memory for one another, backup memory for each other or other routing means. Since memory is monitored to such an extent, it is inherent that the claimed alerting means are present. In fact, Lagueux continues by stating how there are informed consent managers and modules (column 7, lines 20-30, Lagueux). Informed consent is equivalent to the claimed alert feature in a SAN design).

17. With regards to claim 17, Lagueux teaches the method, further comprising selecting the policy to define a plurality of attributes for file system extension

(Lagueux's design has means for rules (column 7, lines 20-30, Lagueux). Rules are equivalent to the claimed policies).

18. With regards to claim 18, Lagueux teaches the method, wherein the attributes can be any of utilization threshold above which file system extension is requested, one or more storage devices accessible for file system extension, a range of storage capacities for accessible storage devices to be assigned for file system extension, maximum file system size, and a flag indicating whether file system utilization is monitored (Lagueux's design allows for monitoring of the storage units via the storage server (column 6, lines 57-58, Lagueux). In addition, Lagueux continues and states how a variety of placements for the storage units are permissible within the design (column 8, line 51 – column 9, line 20, Lagueux). Some examples provided show means for arranging the storage to support backup means, raid means and other storage routing means. Hence, Lagueux's design allows for attributes to be monitored and allows for another storage unit's resources to be called when a storage unit reaches its threshold as claimed).

19. With regards to claim 19, Lagueux teaches the method, further comprising assigning another one of the digital data processors to the first group and to a third group hierarchically related to the second group at a lower level, the third group inheriting at least a portion of the policy defined for the second group and

overriding the reminder of the policy (As previously stated, it is inherent that devices that are able to function as individual nodes in a network and have means by which to process data must also possess processors. The storage units of Lagueux's design are individual nodes within the SAN (Figure 17, Lagueux). In addition, since the storage units are standalone units, they must have the means by which to process the commands to read or write data and also by which to process other commands such as delete and adjust settings. Hence, the storage units must each inherently possess processors. Furthermore, Lagueux goes on to state that the design allows for processors (column 6, line 14, Lagueux). Finally, Lagueux discloses how each storage unit is able to have a combination of drives (tape drive and hard drive in one unit for instance) (column 7, lines 50-52, Lagueux). Each of these drives is able to have it's own address though. In addition, each drive much process commands and is expected to perform the basic read/write functions. To perform such operations, each drive must have a processor. Hence, it is possible for each of the drives of the storage units of Lagueux's design to have its own processor. Furthermore, the storage units are in a hierarchical structure as stated previously. They each have processors and they are able to pass off storage tasks to each other (able to function as raid, backup, etc) (column 8, line 51 – column 9, line 20, Lagueux). So, each of the storage units in each of the hierarchical structures have processors and are able to pass jobs off to one another).

20. With regards to claim 20, Lagueux teaches the method, further comprising assigning another one of the digital data processors to the first group and to a third group hierarchically at the same level as the second group, the third group inheriting at least a portion of the policy defined for the first group and overriding the remainder of the policy to define a file extension policy that is at least partially different from the policy defined for the second group (As previously stated, it is inherent that devices that are able to function as individual nodes in a network and have means by which to process data must also possess processors. The storage units of Lagueux's design are individual nodes within the SAN (Figure 17, Lagueux). In addition, since the storage units are standalone units, they must have the means by which to process the commands to read or write data and also by which to process other commands such as delete and adjust settings. Hence, the storage units must each inherently possess processors. Furthermore, Lagueux goes on to state that the design allows for processors (column 6, line 14, Lagueux). Finally, Lagueux discloses how each storage unit is able to have a combination of drives (tape drive and hard drive in one unit for instance) (column 7, lines 50-52, Lagueux). Each of these drives is able to have it's own address though. In addition, each drive much process commands and is expected to perform the basic read/write functions. To perform such operations, each drive must have a processor. Hence, it is possible for each of the drives of the storage units of Lagueux's design to have its own processor. Furthermore, the storage units are in a hierarchical structure as stated previously. They each

have processors and they are able to pass off storage tasks to each other (able to function as raid, backup, etc) (column 8, line 51 – column 9, line 20, Lagueux). So, each of the storage units in each of the hierarchical structures have processors and are able to pass jobs off to one another).

Remarks

The claims as they currently stand are imprecise. The sentences make it difficult to grasp a true understanding of the design being claimed. When attempts are made to illustrate the design based on the claim language, the results differ from the drawings submitted. Therefore, it is recommended that the claim language be amended to not only overcome the prior art presented but also provide a more accurate description of the design being claimed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Azizul Choudhury whose telephone number is (571)272-3909. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wiley can be reached on (571)272-3923. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AC

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